REMARKS

This responds to the Office Action mailed on October 3, 2007.

Claims 1 – 8 are amended, no claims are canceled, and claims 9 – 15 are added; as a result, claims 1 – 15 are now pending in this application.

§103 Rejection of the Claims

Claims 1-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Haitsma et al. (WO 2065782) in view of Chen et al. (Symmetric Phase-Only Matched Filtering of Fourier-Mellin Transforms for Image Registration and Recognition).

Applicants respectfully traverse this rejection for the reasons set out below, and asks the Examiner for reconsideration.

In particular, Applicants submit that the Office Action has not made out a prima facie case of obviousness. ***The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done.*** "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or ***the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.***" *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art. *Graham v.*

John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.") The Court in *Graham* further noted that evidence of secondary considerations, such as commercial success, long felt but unsolved needs, failure of others, etc., "might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." 383 U.S. at 18, 148 USPQ at 467.

The reasons provided in the Office Action for combining Haitsma et al. and Chen et al. lack articulated reasoning with some rational underpinning. The reason provided in the Office Action is as follows:

"Because the Fourier Mellin transform allow (sic) one to reduce the dimension of the parameter space in which the correlation quality figure is optimized it would have been obvious to one of ordinary skill in the art to use the transform of Chen in Haitsma Fourier circuit 13 **in order to match rotated and scaled images** accurately and efficiently and guaranteeing a high **discrimination power and excellent robustness in the presence of noise**. Therefore the invention would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant."

Firstly, the above reason is erroneous in that matching rotated and scaled images is irrelevant in the context of the current invention as claimed. Chen et al. "*presents a new method to match a two dimensional image to a translated, rotated, and scaled reference image*....The significant advantage of the new technique is its capability to match rotated and scaled images accurately and efficiently." (Chen et al. Abstract). Chen then proceeds to provide to state "[t]he innovation is the application of the SPOMF to the FMI descriptors, which generated a high discriminating power and *excellent robustness in the presence of noise*." (Chen et al. Abstract). The Office Action provides this as a motivation to combine Chen et al. with Haitsma et al.

Claim 1, as amended, relates to extracting a fingerprint to compensate for speed changes in audio signals. As discussed below, the extracted fingerprint may be substantially invariant to speed changes of the audio signal.

As articulated on page 2, first paragraph of the application, "[i]t is quite common for radio stations to speed up audio by a few percent. They supposedly do this for two reasons. First, the duration of the songs is then shorter and therefore it enables them to broadcast more commercials. Secondly, the beat of the song is faster and the audience seems to prefer this. The speed changes typically lie between zero and four percent. The invention, as claimed, compensates for these speed changes in the audio signals to facilitate identification of the audio signal (e.g., identify a song playing on a radio). Combining Chen et al. with Haitsma et al. at best teaches matching rotated and scaled images. Applicants submit that the combination of the limitations in claim 1 yields an unpredictable result, namely, compensating for speed changes in an audio signal to provide a speed invariant fingerprint.

In view of the above it also is submitted that Chen et al. is non- analogous art. It relates to a totally different field of endeavor (processing two-dimensional images) and is certainly not pertinent to the problem solved by the present invention, as claimed. Clearly, Chen et al. and Haitsma et al. are not directed towards solving the same problem.

Chen et al. specifically addressed applications of the symmetric phase-only matched filtering of Fourier-Mellin transforms. It should be noted that Chen et al. describes two-dimensional applications (images). Chen et al. then states that "an open problem is the extension of the method to three dimensional problems." (See Conclusion, column 2, page 1166). It is submitted that Chen et al. in no way contemplated applying Fourier-Mellin transform to one-dimensional audio signals (time being the variable). It is thus also submitted that there is also no suggestion to combine Chen et al. with any reference relating to audio signals.

Motivation to combine or modify the prior art is lacking when the prior art teaches away from the claimed combination. A reference may be said to teach away when the reference suggests a path direction that is divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963). It is submitted that the fact that Chen et al. teaches application of the Fourier-Mellin transform to two-

dimensional images and considers further work to be its application in three-dimensions, teaches away from its application in to one-dimensional audio signal (the single variable being time).

In light of the above, Applicants respectfully submit that the Office Action has failed to make out a prima facie case of obviousness and withdrawal of this rejection is therefore respectfully requested. Accordingly, Applicants submit that claim 1 is allowable. As claims 2 – 7 are dependent upon claim 1 they are also allowable.

In view of the above remarks it is also submitted that claim 8 is allowable.

New claims 9 – 15 include similar limitations to those included in claims 1 – 7. Accordingly, it is also submitted that claims 9 – 15 are allowable.

In light of the above, Applicants respectfully submit that the rejection under 35 U.S.C. § 103 has been overcome, and withdrawal of this rejection is therefore respectfully requested.

In the interest of clarity and brevity, Applicants may not have equally addressed every assertion made in the Office Action. However, this does not constitute any admission or acquiescence. Applicants reserve all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicants timely object to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicants reserve all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of

the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney at 408-278-4041 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 3 day of January 2008.

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